



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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Order Instituting Rulemaking Regarding
Microgrids Pursuant to Senate Bill 1339 and
Resiliency Strategies.

Rulemaking 19-09-009

**CLEAN COALITION COMMENTS IN RESPONSE TO PROPOSED DECISION
ADOPTING MICROGRID AND RESILIENCY SOLUTIONS TO ENHANCE SUMMER
2022 AND SUMMER 2023 RELIABILITY**

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I. INTRODUCTION

Pursuant to Rule 14.3 of the California Public Utilities Commission (“the Commission”) Rules of Practice and Procedure, the Clean Coalition respectfully submits these comments in response to the *Proposed Decision Adopting Microgrid and Resiliency Solutions to Enhance Summer 2022 and Summer 2023 Reliability*, issued at the Commission on October 29, 2021. The Clean Coalition was surprised at the lack of clean capacity approved in the Proposed Decision (“PD”); even if the Commission is certain that enough energy will be readily available through the emergency reliability proceeding¹, approving many of the unique proposals submitted in **this** proceeding to deploy Community Microgrids and component resources would undoubtedly benefit the state through added layers of local reliability and resilience. The Commission should consider that while the Governor’s Emergency Proclamation focused the proceeding on demand response and energy efficiency for the sake of reducing future reliability issues, it was not meant to completely move the discussion away from the original purpose of the proceeding: reducing the barriers inhibiting the widespread proliferation of microgrids. Proposals that addressed both concerns — the Governor’s Emergency Proclamation as well as the statutes in SB 1339 — should be viewed as a win-win situation for the Commission. Unfortunately, it appears that rather than taking advantage of the unique opportunity afforded by the broad regulatory mandate from the Governor’s Office, the Commission is choosing to move in the other direction, acting in a needlessly conservative fashion when it comes to analyzing the potential benefits of the vast majority of proposals. Whereas SDG&E’s microgrid proposal was approved and deemed worthy of being ratebased despite only servicing a select few customers, the proposal made by the County of Los Angeles was merely referred to apply to the Microgrid Incentive Program (“MIP”), which is in no way provides a

¹ R. 20-11-003

deterministic pathway for a proposal to be selected and deployed seeing as the MIP is still months if not years from being implemented. The MIP also does not cover any behind-the-meter (“BTM”) resources or infrastructure, making it more difficult for communities with low penetrations of DER to assemble viable applications.

Devoid of any substantive explanation, the PD rejects a number of creative solutions, like the Regional Public Agency Microgrid Pilot Program proposed by the County of Los Angeles. Instead, the PD continues with what has become the norm in this proceeding — approving fossil fuel generation and a single utility-owned microgrid. No part of PD complies with the statutory mandate of SB 1339² and the Commission unduly denies all proposals with specious excuses that relegate those proposals into nebulous other proceedings – with the seeming intent of killing those proposals. At the very least, the PD should mandate that those worthy proposals, like the one from the County of Los Angeles, be effectively addressed. This PD is simply insufficient at meeting the urgent circumstances facing California. The PD neither adds meaningfully to the conversation on reliability and resilience nor does it simplify the process of deploying Community Microgrids.

An Emergency Declaration inherently suggests that everything is on the table; extraordinary circumstances call for innovative solutions. In almost every regard, the PD is underwhelming and disappointing. The fact remains that the pathway to the widespread deployment of Community Microgrids is still riddled with roadblocks. The greatest concern continues to be that without active utility cooperation, deploying Community Microgrids is close to impossible and even with a utility-partner, there is no guarantee that a Community Microgrid will be deployed (either on time or at all). While the Redwood Coast Airport Microgrid (RCAM) is staging to become the first true Community Microgrid in California, after many years of development, RCAM remains the only example of a true Community Microgrid that is in development within California. Hence, the Commission’s choice to solely approve the procurement of Community Microgrids via utility-administered programs is tightening the bottleneck rather than alleviating it. This sends the unfortunate price signal that the IOUs, not the market, are driving the pace of technological advancement by selecting which projects and technologies will move forward. One of many steps that needs to be taken is to approve a different, more deterministic pathway for the deployment of Community Microgrids, where likeminded public agencies can work together to design and plan a Community Microgrid without being dependent on adversarial IOUs at every step in the process.

² SB 1339 contains statutes against cost-shifting and subsidizing fossil fuel generation, both of which are approved in the PD.

The Clean Coalition urges the Commission to reconsider and approve the proposal made by the County of Los Angeles, which will diversify the Community Microgrid procurement process, reducing the burden on the IOUs and allowing counties to work in tandem to protect critical community facilities (“CCFs”) and disadvantaged vulnerable communities (“DVCs”). The Commission should take into account the following:

- The Regional Public Agency Microgrid Pilot Program has the potential to strategically deploy Community Microgrids and other resilience solutions sized for reliability and also provide public resilience benefits through backup power for CCFs.
- Due to the prohibition of cost shifting in SB 1339, the number of solutions approved throughout the first three tracks of this proceeding (as well as the current Phase 1 of Track 4) have been severely limited. Despite this constraint, there has been no attempt to codify what constitutes a cost shift or what it would take, from the perspective of the Commission, to make a Community Microgrid cost-effective.
- Without a standard methodology to value resilience, which is one of the main value propositions of all microgrids, it has been difficult to create a long-term pathway to guarantee the deployment of cost-effective (even profitable) Community Microgrids. Based on CPUC rate-setting principles, it would behoove the state to adopt a transparent and easily applicable value rather than attempting to solve the complexities that come with attempting to put a dollar amount on a human life, valuing the Loss of Load for a specific business or adding a variable for multiple different outage scenarios.

The Clean Coalition will demonstrate, using the example of a potential Community Microgrid serving multiple adjacent CCFs in East Los Angeles that could be funded via the proposal made by the County of Los Angeles – and serve additional facilities via a cost-effective method to finance the expansion of Community Microgrids: the Resilient Energy Subscription (“RES”) market mechanism. The example Community Microgrid in East Los Angeles and the RES are described in the comments below.

II. DESCRIPTION OF PARTY

The Clean Coalition is a nonprofit organization whose mission is to accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise. The Clean Coalition drives policy innovation to remove barriers to procurement and interconnection

of distributed energy resources (“DER”) — such as local renewables, demand response, and energy storage — and we establish market mechanisms that realize the full potential of integrating these solutions for optimized economic, environmental, and resilience benefits. The Clean Coalition also collaborates with utilities, municipalities, property owners, and other stakeholders to create near-term deployment opportunities that prove the unparalleled benefits of local renewables and other DER.

III. COMMENTS

A. The East Los Angeles Community Microgrid is a perfect example of the value that a Regional Public Agency Microgrid Pilot Program can offer.

The Clean Coalition is conducting a feasibility study for the East Los Angeles Hub, pictured below, to determine the technical and economic possibilities for Solar Microgrids at three adjacent County of Los Angeles CCFs: the Edward R. Roybal Health Center, the East LA Civic Center and the East LA Library. Despite being sited on adjacent properties with available space on rooftops, parking lots and a nearby parking structure for the deployment of solar, current restrictions make it nearly impossible to configure a more efficient Community Microgrid to provide resilience to these CCFs.



Figure 1. Three CCFs and adjacent parking lot in the East LA hub that will be studied.

As a result, a configuration of three separate Solar Microgrids is the most likely outcome to be, leaving significant solar siting opportunities on nearby built environments unutilized and missing a big opportunity for increased reliability and resilience. It should be clear that a Community

Microgrid can be implemented at this East Los Angeles hub to maximize local solar, reliability, and resilience to vital CCFs and potentially additional nearby facilities. In addition, because the County of Los Angeles is proposing this Regional Public Agency Microgrid Pilot Program as an opportunity to, “deliver net peak demand hours for the summers of 2022 and 2023,”³ Community Microgrids like this will provide numerous reliability and economic benefits to all ratepayers, including, but not limited to: an increased penetration of DER in a DVC, reduced strain on the transmission grid, peak shaving, and an array of grid optimizations that can be achieved by dispatchable local solar.

B. There is a consensus among parties that resilience for CCFs should be ratebased

Throughout the proceeding, there has been a constant debate about the tangible benefits that microgrids can provide to the broader grid and how to properly compensate microgrid owners for the services provided. While there has not been general agreement on what constitutes a public benefit, parties have agreed that CCFs provide a public benefit via resilience, and that benefit is a starting point for subsidized Community Microgrids. The Clean Coalition contends that the proposal made by the County of Los Angeles would provide the initial funds to deploy Community Microgrids for CCFs like at the East Los Angeles hub of CCFs, providing the foundation for the Community Microgrid to expand with the introduction of a Resilient Energy Subscription market mechanism.

C. Using the Clean Coalition’s Resilient Energy Subscription (“RES”) market mechanism is the ideal way to fund the deployment of Community Microgrids without shifting costs.

The RES is a straightforward market mechanism that allows any facility within the footprint of a Community Microgrid to pay a simple fee on top of its normal electricity tariff for guaranteed daily delivery of locally generated renewable energy during grid outages, ensuring unparalleled energy resilience. The cost of such indefinite renewables-driven backup power will generally be reserved for the most critical loads, but ultimately, each individual facility will decide which loads are critical and procure resilience for those loads via a transparent fee that covers the cost-of-service (COS) of provisioning such energy resilience from a Community Microgrid. Hence, there are only two fundamental features of the RES:

³ County of Los Angeles Opening Comments on ALJ Ruling at 4.

1. Facilities located within the footprint of a Community Microgrid have the opportunity to procure resilience, through a monthly \$/kWh RES fee that is separate from any existing rate tariffs, which will remain unchanged. A facility will pay the RES fee to reserve a guaranteed allotment of daily delivered energy when the traditional transmission and distribution grids are unavailable for any reason, including natural disasters, terrorism, and repairs.
2. Through RES fees, the Community Microgrid owner-operators will recover the COS that is required to meet the contracted RES obligations. As is standard in the utility industry, COS is determined by the capital expenditures (“capex”) associated with Community Microgrid assets, operational expenditures (“opex”) associated with operations and maintenance (O&M), and an appropriate rate of return.

When there is a shortage of available energy during grid outages, however, a Community Microgrid is obligated to deliver only to RES limits, and any customer reaching its RES limit can be turned off at its meter. RES subscriptions will be offered on a first-come, first-served basis, only limited by Community Microgrid capacity, which of course will expand as demand for subscription allocations grow.

i. Determining how much energy to reserve for resilience

The Clean Coalition has developed a value-of-resilience (VOR) methodology known as VOR123⁴, because it tiers electrical load as follows:

- Tier 1 - Critical load: Life-sustaining or crucial to keep operational during a grid outage
- Tier 2 - Priority load: Important but not crucial to keep operational during an outage
- Tier 3 - Discretionary load: Remainder of the total load

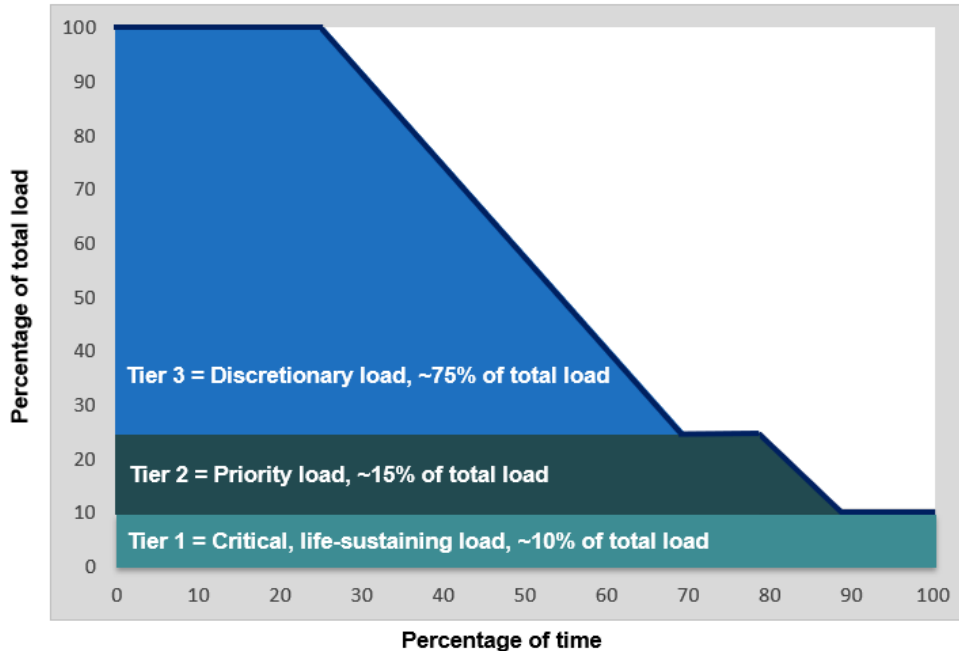
While a facility can choose how much energy it wishes to reserve, the Clean Coalition recommends the VOR123 methodology, because it establishes straightforward load budgets that can be determined and valued with relative ease. These three simple steps can be followed by any facility to determine its specific VOR123:

1. To start, each facility reviews historical energy usage, accounting for variations across

⁴ <https://clean-coalition.org/disaster-resilience/>

seasons and times of day.

2. Then, the facility tiers the loads, like in this example from the University of California Santa Barbara (“UCSB”):



Percentage of time online for Tier 1, 2, and 3 loads for a Solar Microgrid designed for the University of California Santa Barbara (UCSB) with enough solar to achieve net zero and 200 kWh of energy storage per 100 kW solar.

3. Next, the facility uses the VOR123 methodology to determine the overall value-of-resilience. The Clean Coalition’s VOR123 approach standardizes resilience values for three tiers of loads, regardless of facility type or location, as follows:


- **Tier 1, usually about 10% of the total load, are mission-critical, life-sustaining loads** that warrant 100% resilience. The VOR for Tier 1 loads is 3x the usual price of electricity.
- **Tier 2, or priority loads, usually about 15% of the total load**, should be maintained as long as doing so does not threaten the ability to maintain Tier 1 loads. The VOR for Tier 2 loads is 1.5x the usual price of electricity.
- **Tier 3 are discretionary loads** that make up the remaining loads, usually about 75% of the total load. Maintained when doing so does not threaten Tier 1 & 2 resilience. There is no VOR premium for Tier 3 loads.


Alternatively, a facility can use empirical experience from past grid outages or some other method to determine its load tiering, VOR, and appetite for RES fees.


ii. Sizing a Community Microgrid for resilience


The VOR123 principles for an individual facility can also be applied to a larger grid area. In most cases, load tier percentages for a Community Microgrid will mirror typical load tier percentages for individual facilities: 10% for Tier 1 load, 15% for Tier 2 load, and 75% for Tier 3 load.

		Facility tiers		
		Tier 1 facility	Tier 2 facility	Tier 3 facility
Load tiers	Tier 1 load			
	Tier 2 load			
	Tier 3 load			

 = Critical for the entire community, such as Tier 1 loads at Tier 1 facilities like fire stations

 = Priority for the entire community, such as Tier 2 loads at Tier 1 facilities and Tier 1 loads at Tier 2 facilities like multi-unit housing facilities that can provide safe and easy sheltering in place

 = Priority for individual facilities but not the entire community

 = Discretionary loads that are not impactful to the community, whether on or off

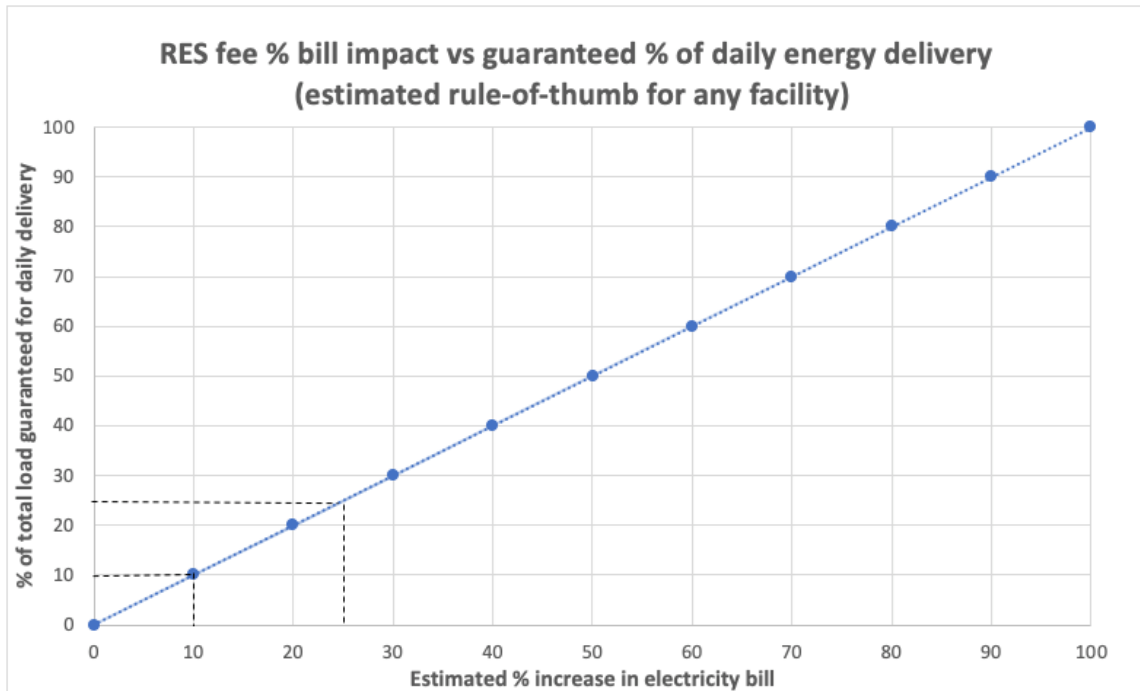
The figure above explains how the different loads in a Community Microgrid should be valued, with the green boxes as the most essential loads to keep on. Due to the critical role that Tier 1 facilities — such as the Health Center, Civic Center, and Library in the East Los Angeles Community Microgrid example — play in keeping communities safe and functioning, the COS for serving all Tier 1 loads at Tier 1 facilities (seen above in dark green) should be ratebased, similar to how costs associated with the transmission grid are ratebased. Given the societal value of Tier 1 facilities, it is more than reasonable to ratebase the associated COS for Community Microgrids to a level that they can deliver RES allocations covering Tier 1 loads at Tier 1 facilities — and arguably Tier 2 loads at Tier 1 facilities, too. The loads from other facilities will be financed via the RES fee, overcoming the three basic challenges involved with deploying a Community Microgrid by using simple market forces to determine the additional facilities covered. The three challenges include:

1. Sizing initial Community Microgrids to meet initial guaranteed resilience requirements.
2. Expanding Community Microgrids to meet potential expansions in guaranteed resilience requirements within the initial Community Microgrid footprint.
3. Expanding Community Microgrids to larger distribution grid footprints that include guaranteed resilience commitments to an expanding list of RES-contracted facilities

RES allows a utility to plan strategically for resilience by aggregating RES allocations as they are contracted by facilities across the Community Microgrid footprint. Once the initial investment of a Community Microgrid for CCFs is made, future investments are based on market demand for resilience. As Community Microgrids expand and cost-efficiencies are achieved through learning and economies-of-scale, RES costs and fees will trend lower, and the RES fees can be recalculated periodically to account for such reductions.

iii. Understanding the real cost of implementing RES for participants

As mentioned above, once an initial Community Microgrid is established for serving the CCFs, the incremental COS for expanding the Community Microgrid via the market-based RES will be relatively low. For the average facility, the Clean Coalition has calculated that each 1% of load that a facility secures via a RES will result in a 1% electricity bill increase, as shown in this chart:



Thus, through a RES, it is feasible for Community Microgrids to be deployed and financed without shifting any costs to non-participants. Importantly, while the RES market mechanism encapsulates the price of resilience for each facility at the COS of the Community Microgrid, the value delivered to each facility is far higher, as evidenced by the VOR123 methodology.

IV. CONCLUSION

The Clean Coalition appreciates the opportunity to submit these opening comments and advocates that the Commission amend the PD to approve the proposal made by the County of Los Angeles for a Regional Public Agency Microgrid Pilot Program and directs staff to investigate the Resilient Energy Subscription (RES) market mechanism for market-based financing of Community Microgrids.

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